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CLAIMS

- 5 1. A polyolefin fiber for the reinforcement of products based on fibers and a hydraulic-setting substance, **characterized in that** it includes a size carrying a function which assists the fiberizing operation, a function in which the fiber can be wetted by the composition of the hydraulic-setting substance, and a function of promoting adhesion to the hydraulic-setting substance.
- 10 2. The polyolefin fiber as claimed in claim 1, **characterized in that** the size comprises one or more agents chosen from lubricants, antistatic agents, surfactants, fatty-chain compounds and polymers having polar functional groups.
- 15 3. The polyolefin fiber as claimed in claim 2, **characterized in that** the size comprises a polyalkylene glycol or a derivative, especially an ester of fatty-acid-derived polyalkylene glycol.
4. The polyolefin fiber as claimed in one of the preceding claims, **characterized in that** the size comprises an amine or polyamine compound, or phosphoric or polyphosphoric compound, especially a phosphoric acid ester based on a fatty chain.
- 20 5. The polyolefin fiber as claimed in one of claims 2 to 4, **characterized in that** the size comprises a halogenated polymer.
6. The polyolefin fiber as claimed in one of claims 1 to 5, **characterized in that** the size comprises at least one product chosen from products of the SILASTOL Cut A and Cut 5B reference from Schill & Seilacher, SYNTHESIN 25 7292 from Dr. Boehme, KB 144/2 from Cognis, STANTEX S6077 from Cognis and STANTEX S6087/4 from Cognis.
7. The polyolefin fiber as claimed in one of the preceding claims, **characterized in that** the polyolefin is polypropylene.
8. The polyolefin fiber as claimed in one of the preceding claims, **characterized in that** the titre of the polyolefin fiber is between 0.5 and 10 dtex.
- 30 9. The polyolefin fiber as claimed in one of the preceding claims, **characterized in that** the polyolefin fiber has a tenacity of at least 4 cN/dtex, preferably of at least 5 cN/dtex.

10. The polyolefin fiber as claimed in one of the preceding claims, **characterized in that** the size is present on the fiber in an amount of 0.05 to 5 % by weight of dry matter relative to the dry weight of fiber.
- 5 11. The polyolefin fiber as claimed in one of the preceding claims, **characterized in that** the size is applied pure or as a solution, dispersion or emulsion, aqueous-based or based on another suitable liquid vehicle.
12. The use of a fiber as claimed in one of the preceding claims as reinforcing fiber in a product based on fibers and a hydraulic-setting substance.
- 10 13. A product based on fibers and a hydraulic-setting substance, **characterized in that** it comprises polyolefin fibers as claimed in one of claims 1 to 11.
14. The product as claimed in claim 13, **characterized in that** it comprises from 0.2 to 5% by weight of reinforcing fibers relative to the total dry weight of the initial mixture.
- 15 15. The product as claimed in claim 13 or 14, **characterized in that** it has the form of a plane or corrugated board or plate.
16. A process for manufacturing a product based on fibers and a hydraulic-setting substance as claimed in one of claims 13 to 15, **characterized in that** an initial mixture based on hydraulic binder, water and fibers is prepared, in that the mixture is filtered on a fixed or moving support in order to form a wet elementary sheet, in that a plurality of elementary sheets is superposed to form a wet intermediate product and in that the wet intermediate product is dried.
- 20 17. A composition for a hydraulic-setting material, especially for mortar, comprising a hydraulic binder and fibers as claimed in one of claims 1 to 11.